



Scorpion Integrated Protection Analysis Combat Ensemble

Description

The **Scorpion IPA Combat Ensemble** will demonstrate the feasibility of a revolutionary, combat-specific, integration/protective ensemble for the Objective Force Warrior by 3Q FY03. The ensemble will be the foundational centerpiece for the human interface, load bearing, electronic hardware linkages, and multiple levels of protection. The Scorpion IPA Combat Ensemble will enhance the ability of the warrior to fight and survive in any mission and in any environment. It will minimize encumbrance in terms of heat stress, load, load/friction points, and ability to move, sense, communicate, shoot and survive. It will integrate functions to the greatest extent possible, and provide for appropriate "plug-and-play" mission tailorability. Additionally, it will provide appropriate interfaces for future Objective Force Warrior equipment (physical and/or electrical interfaces). This system is focused towards a broad user group: Infantry, Mounted Crewmen, SOF, Medics, Engineers, Military Police, Special Operational Forces, and Marines.



Key Technologies:

- Advanced lightweight ballistic protective materials (e.g. M5 fiber)
- Selectively permeable membrane and closures
- Electro textiles and connectors
- Body conformal rechargeable batteries
- Physiological status monitoring, miniature sensors, low cost personal area networking
- Flame retardant textiles
- Design integration, human factors engineering
- Microclimate conditioning
- Respiratory and percutaneous filtration
- Signature management

Focus:

- Integrated body armor and load carriage
- Thermal management — passive and active
- Physical redesign of headgear and mandibles, placement of accoutrements (impact on CG/MOI, interference, stability, protection, thermal/moisture management, fightability)
- CB integration — what can/should be integrated, what remains modular
- Headgear / suit integration — CB, interference, tethering issues (electronic, hydration, ventilation, CB filtered air)
- User acceptance

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rev 11-25-02